

Serial No.: 10/822,810
Docket No.: 102-1020
Amendment Dated October 31, 2005
Reply to Office Action of September 13, 2005

Amendments to the Drawings

The attached sheets of drawings include changes to FIGS. 1 and 2. These sheets, which include FIGS. 1 and 2, replace the original sheets including FIGS. 1 and 2.

Attachment: Replacement Sheet

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REMARKS

Introduction

Applicant notes with appreciation the Examiner's indication that claims 2-4, 6 and 8 would be allowable if rewritten in independent form. Applicant also notes with appreciation the Examiner's indication that each of the references cited in the Information Disclosure Statement of April 13, 2004 have been considered.

Upon entry of the foregoing amendment, claims 1-13 are pending in the application. Claims 9-13 have been allowed. Claims 2, 3 and 8 have been amended. No new matter is being presented. In view of the following remarks, reconsideration and allowance of all the pending claims are requested.

Objections

Drawings

At item 1 of the Office Action, the Examiner has objected to the drawings under 37 CFR 1.84(p)(5) for having "reference sign(s) not mentioned in the description." In amended FIG. 1, reference numeral 21 has been removed. In amended FIG. 2, reference numeral S119 has been removed. Reference numeral S116 has been added to the description in paragraph 0040 of the specification.

Claims

At item 2 of the Office Action, the Examiner has objected to claims 2-4 and 8 for informalities. Applicant has amended the claims as suggested by the Examiner. Thus, it is respectfully requested that the Examiner withdraw the objection.

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Rejection under 35 USC § 102

Claims 1, 5 and 7 have been rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,953,572 to Takeuchi et al. (hereinafter Takeuchi). This rejection is traversed for at least the reasons stated below.

Regarding independent claim 1, at item 5 of the Office Action, the Examiner alleges that Takeuchi discloses “a method of measuring a resistance of a transfer roller, comprising: driving a transfer belt (9) supported by a plurality of rollers (12, 14, 15 and 16) and disposed in a transfer unit which transfers an image from the photoconductive medium onto a recording medium (col. 6, lines 17-56); and calculating a resistance of the transfer roller while rotating the transfer belt one revolution (col. 7, line 29 – col. 9, line 1).

It is respectfully submitted that Takeuchi illustrates calculating a resistance value of an intermediary transfer belt 9 (col. 7, lines 41-59 and col. 8, line 57 – col. 9, line 1). However, Takeuchi does not disclose “calculating a resistance of the transfer roller while rotating the transfer belt one revolution,” as recited in independent claim 1 of Applicant’s invention. Although Takeuchi, does illustrate measuring a combined resistance of a secondary transfer roller 11 and a counter-roller 12, the combined resistance is measured by applying a voltage to the secondary transfer roller 11 and the counter-roller 12 without interposing the intermediary transfer belt 9 between the secondary transfer roller 11 and the counter-roller 12 (col. 7 lines 63-66). Since the intermediary transfer belt 9, is not interposed between the secondary transfer roller 11 and the counter-roller 12 when the combined resistance of the secondary transfer roller 11 and the counter-roller 12 is being measured, the resistance cannot be measured while rotating the intermediary transfer belt 9. Accordingly, Takeuchi does not show, among other things “calculating a resistance of the transfer roller while rotating the transfer belt one revolution,” as recited in independent claim 1 of Applicant’s invention. “A claim is anticipated only if each and every element as set forth in the claim is found either expressly or inherently described in a single prior art reference.” Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2USPQ2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as contained in the... claim.” Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ 2d 1920 (Fed. Cir. 1989). “The elements must be arranged as required by

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the claim..." In re Bond, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990). Accordingly, since Takeuchi does not show every element as recited in independent claim 1, Takeuchi can not be properly used to reject claim 1. Therefore, it is respectfully submitted that independent claim 1 is allowable over Takeuchi, and withdrawal of this rejection and allowance of this claim are earnestly solicited.

Regarding independent claims 5 and 7, at item 5 of the Office Action, the Examiner alleges that Takeuchi discloses that, "[a] voltage is variably applied to the transfer roller according to an average resistance of the transfer roller during a rotation of the transfer belt (col. 7, line 29 – col. 9, line 22)."

It is respectfully submitted that Takeuchi illustrates calculating an optimum secondary transfer voltage by detecting voltage while controlling a current to be constant and calculating an average of the detected voltage (col. 9, lines 8-22). Further, in an embodiment of Takeuchi not cited by the Examiner, the optimum secondary transfer voltage is calculated based on a resistance value of an intermediary transfer belt 9 (col. 9, lines 30-54). However, at no point in Takeuchi is the optimum secondary transfer voltage varied based on a resistance of a secondary transfer roller 11. Accordingly, Takeuchi does not disclose, among other things, "variably applying a voltage to the transfer roller according to an average resistance of the transfer roller during one rotation of the transfer belt," as recited in independent claim 5 of Applicant's invention, or "variably applying a voltage to the transfer roller according to an average resistance of the transfer roller during a number of rotations (n) of the transfer belt," as recited in independent claim 7 of Applicant's invention. Since Takeuchi does not disclose every element as recited in independent claims 5 and 7, Takeuchi can not be properly used to reject claims 5 and 7. See anticipation requirement *supra*. Therefore, it is respectfully submitted that independent claims 5 and 7 are allowable over Takeuchi, and withdrawal of this rejection and allowance of these claims are earnestly solicited.

Claim 1 has been rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,904,245 to Mochizuki, et al. (hereinafter Mochizuki). This rejection is traversed for at least the reasons stated below.

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At item 7 of the Office Action, the Examiner alleges that Mochizuki discloses "a method of measuring resistance of a transfer roller, comprising: driving a transfer belt 51 supported by a plurality of rollers (56, 63 and 64) and disposed in a transfer unit which transfers an image from a photoconductive medium onto a recording medium; and calculating a resistance of the transfer roller while rotating the transfer belt one revolution (col. 2, lines 25-51; col. 9, lines 40-51; col. 11, lines 22-42; and col. 13, lines 41-44)."

It is respectfully submitted that Mochizuki illustrates determining resistances of primary transfer rollers 53a to 53d. The resistances are measured when a voltage is applied to the primary transfer rollers 53a to 53d while the primary transfer rollers 53a to 53d are rotated (col. 9, lines 40-51). However, at no point does Mochizuki teach that an intermediate transfer belt 51 rotates one revolution when the resistances are measured. At col. 11, lines 22-42, Mochizuki illustrates measuring current during one rotation of the primary transfer rollers 53a to 53a. However, one rotation of the primary transfer rollers 53a to 53d is not the same as one revolution of the intermediate transfer belt 51. Accordingly, Mochizuki does not teach, among other things, "calculating a resistance of the transfer roller while rotating the transfer belt at least one revolution," as recited in independent claim 1 of Applicant's invention. Since Mochizuki does not show every element as recited in independent claim 1, Mochizuki can not be properly used to reject claim 1. See anticipation requirement *supra*. Therefore, it is respectfully submitted that independent claim 1 is allowable over Mochizuki, and withdrawal of this rejection and allowance of this claim are earnestly solicited.

Conclusion

It is respectfully submitted that a full and complete response has been made to the outstanding Office Action and as such, there being no other objections or rejections, this application is in a condition of allowance, and a notice to this effect is earnestly solicited.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided below.

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No Fee has been incurred by this Amendment. However, if any further fees are required in connection with the filing of this amendment, please charge the same to our Deposit Account No. 502827.

Respectfully submitted,

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